

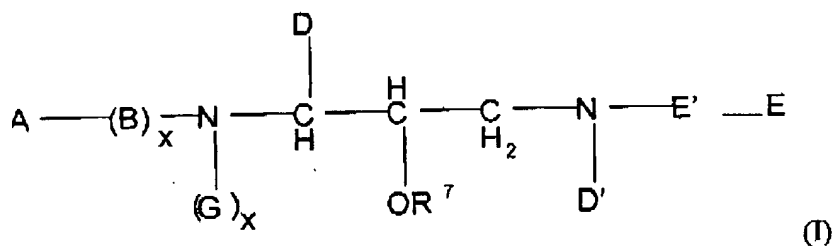
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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A compound of formula I:



or a pharmaceutically acceptable salt thereof, wherein:

E' is  $[-\text{CO}-$  or  $]-\text{SO}_2-$ ;

A is selected from  $-\text{R}^1-\text{C}_1-\text{C}_6$  alkyl, which is optionally substituted with one or more groups independently selected from hydroxy,  $\text{C}_1-\text{C}_4$  alkoxy, Ht,  $-\text{O}-\text{Ht}$ ,  $-\text{NR}^2-\text{CO}-\text{N}(\text{R}^2)_2$ ,  $-\text{SO}_2-\text{R}^2$  or  $-\text{CO}-\text{N}(\text{R}^2)_2$ ; or  $-\text{R}^1-\text{C}_2-\text{C}_6$  alkenyl, which is optionally substituted with one or more groups independently selected from hydroxy,  $\text{C}_1-\text{C}_4$  alkoxy, Ht,  $-\text{O}-\text{Ht}$ ,  $-\text{NR}^2-\text{CO}-\text{N}(\text{R}^2)_2$  or  $-\text{CO}-\text{N}(\text{R}^2)_2$ ; or  $\text{R}^7$ ;

$\text{R}^1$  is  $-\text{O}-\text{C}(\text{O})-$ ;

each Ht is independently selected from  $\text{C}_3-\text{C}_7$  cycloalkyl;  $\text{C}_5-\text{C}_7$  cycloalkenyl;  $\text{C}_6-\text{C}_{14}$  aryl; or a 5-7 membered saturated or unsaturated heterocycle, containing one or more heteroatoms selected from N, O, or S; wherein said aryl or said heterocycle is optionally fused to Q; and wherein any member of said Ht is optionally substituted with one or more substituents independently selected from oxo,  $-\text{OR}^2$ ,  $\text{SR}^2$ ,  $-\text{R}^2$ ,  $-\text{N}(\text{R}^2)(\text{R}^2)$ ,  $-\text{R}^2-\text{OH}$ ,  $-\text{CN}$ ,  $-\text{CO}_2\text{R}^2$ ,  $-\text{C}(\text{O})-\text{N}(\text{R}^2)_2$ ,  $-\text{S}(\text{O})_2-\text{N}(\text{R}^2)_2$ ,  $-\text{N}(\text{R}^2)-\text{C}(\text{O})-\text{R}^2$ ,  $-\text{N}(\text{R}^2)-\text{C}(\text{O})\text{O}-\text{R}^2$ ,  $-\text{C}(\text{O})-\text{R}^2$ ,  $-\text{S}(\text{O})_n-\text{R}^2$ ,  $-\text{OCF}_3$ ,  $-\text{S}(\text{O})_n-\text{Q}$ , methylenedioxy,  $-\text{N}(\text{R}^2)-\text{S}(\text{O})_2(\text{R}^2)$ , halo,  $-\text{CF}_3$ ,  $-\text{NO}_2$ , Q,  $-\text{OQ}$ ,  $-\text{OR}^7$ ,  $-\text{SR}^7$ ,  $-\text{R}^7$ ,  $-\text{N}(\text{R}^2)(\text{R}^7)$  or  $-\text{N}(\text{R}^7)_2$ ;

each Q is independently selected from a 3-7 membered saturated, partially saturated or unsaturated carbocyclic ring system; or a 5-7 membered saturated, partially saturated or unsaturated heterocyclic ring containing one or more heteroatoms selected from O, N, or S; wherein Q is optionally substituted with one or more groups selected from oxo,  $-OR^2$ ,  $-R^2$ ,  $-SO_2R^2$ ,  $-SO_2-N(R^2)_2$ ,  $-N(R^2)_2$ ,  $-N(R^2)-C(O)-R^2$ ,  $-R^2-OH$ ,  $-CN$ ,  $-CO_2R^2$ ,  $-C(O)-N(R^2)_2$ , halo,  $-CF_3$ ;

each  $R^2$  is independently selected from H, or  $C_1-C_4$  alkyl; and wherein said alkyl, when not a substituent of Q, is optionally substituted with Q or  $-OR^3$ ; wherein when said  $R^2$  is an  $-OR^3$  substituted moiety, said  $R^3$  in  $-OR^3$  may not be  $-OR^2$  substituted;

B is absent, ~~when present, is  $-N(R^2)-C(R^3)_2-C(O)-$~~ ;

each x is independently 0 or 1;

each  $R^3$  is independently selected from H, Ht,  $C_1-C_6$  alkyl,  $C_2-C_6$  alkenyl,  $C_2-C_6$  alkynyl,  $C_3-C_6$  cycloalkyl or  $C_5-C_6$  cycloalkenyl; wherein any member of said  $R^3$ , except H, is optionally substituted with one or more substituents selected from  $-OR^2$ ,  $-C(O)-NH-R^2$ ,  $-S(O)_n-N(R^2)(R^2)$ ,  $-N(R^2)_2$ ,  $-N(R^2)-C(O)-O(R^3)$ ,  $-N(R^2)-C(O)-N(R^2)$ ,  $-N(R^2)-C(O)-(R^2)$ , Ht,  $-CN$ ,  $-SR^2$ ,  $-CO_2R^2$ , or  $NR^2-C(O)-R^2$ ;

each n is independently 1 or 2;

G is H, ~~when present, is selected from H,  $R^2$  or  $C_1-C_4$  alkyl, or, when G is  $C_1-C_4$  alkyl, G and  $R^2$  are optionally bound to one another either directly or through a  $C_1-C_3$  linker to form a heterocyclic ring; or~~

~~when G is not present, the nitrogen to which G is attached is bound directly to the  $R^2$  group in  $-OR^2$  with the concomitant displacement of one ZM group from  $R^2$ ;~~

~~D is selected from Q;  $C_1-C_6$  alkyl optionally substituted with one or more groups selected from  $C_3-C_6$  cycloalkyl,  $-OR^2$ ,  $-S-Ht$ ,  $-R^3$ ,  $-O-Q$  or Q;  $C_2-C_4$  alkenyl optionally substituted with one or more groups selected from  $-OR^2$ ,  $-S-Ht$ ,  $-R^3$ ,  $-O-Q$  or Q;  $C_3-C_6$~~

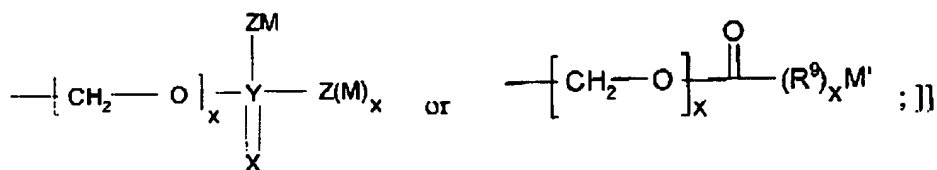
~~cycloalkyl optionally substituted with or fused to Q; or C<sub>5</sub>-C<sub>6</sub> cycloalkenyl optionally substituted with or fused to Q;~~

D' is selected from C<sub>1</sub>-C<sub>15</sub> alkyl, C<sub>2</sub>-C<sub>15</sub> alkenyl or C<sub>2</sub>-C<sub>15</sub> alkynyl, each of which contains one or more substituents selected from oxo, ~~[[halo,]]~~ -CF<sub>3</sub>, -OCF<sub>3</sub>, -NO<sub>2</sub>, azido, -SH, ~~[[SR<sup>3</sup>,]]~~ -N(R<sup>3</sup>)-N(R<sup>3</sup>)<sub>2</sub>, -O-N(R<sup>3</sup>)<sub>2</sub>, -(R<sup>3</sup>)N-O-(R<sup>3</sup>), ~~[[N(R<sup>3</sup>)<sub>2</sub>,]]~~ -CN, -CO<sub>2</sub>R<sup>3</sup>, -C(O)-N(R<sup>3</sup>)<sub>2</sub>, -S(O)<sub>n</sub>-N(R<sup>3</sup>)<sub>2</sub>, -N(R<sup>3</sup>)-C(O)-R<sup>3</sup>, -N(R<sup>3</sup>)-C(O)-N(R<sup>3</sup>)<sub>2</sub>, -N(R<sup>3</sup>)-C(O)-S(R<sup>3</sup>), -C(O)-R<sup>3</sup>, ~~[[S(O)<sub>n</sub>-R<sup>3</sup>,]]~~ -N(R<sup>3</sup>)-S(O)<sub>n</sub>(R<sup>3</sup>), -N(R<sup>3</sup>)-S(O)<sub>n</sub>-N(R<sup>3</sup>)<sub>2</sub>, -S-NR<sup>3</sup>-C(O)R<sup>3</sup>, -C(S)N(R<sup>3</sup>)<sub>2</sub>, -C(S)R<sup>3</sup>, -NR<sup>3</sup>-C(O)OR<sup>3</sup>, -O-C(O)OR<sup>3</sup>, -O-C(O)N(R<sup>3</sup>)<sub>2</sub>, -NR<sup>3</sup>-C(S)R<sup>3</sup>, =N-OH, =N-OR<sup>3</sup>, =N-N(R<sup>3</sup>)<sub>2</sub>, =NR<sup>3</sup>, -NNR<sup>3</sup>-C(O)N(R<sup>3</sup>)<sub>2</sub>, =NNR<sup>3</sup>-C(O)OR<sup>3</sup>, =NNR<sup>3</sup>-S(O)<sub>n</sub>-N(R<sup>3</sup>)<sub>2</sub>, -NR<sup>3</sup>-C(S)OR<sup>3</sup>, -NR<sup>3</sup>-C(S)N(R<sup>3</sup>)<sub>2</sub>, -NR<sup>3</sup>-C[=N(R<sup>3</sup>)]-N(R<sup>3</sup>)<sub>2</sub>, -N(R<sup>3</sup>)-C[=N-NO<sub>2</sub>]-N(R<sup>3</sup>)<sub>2</sub>, -N(R<sup>3</sup>)-C[=N-NO<sub>2</sub>]-OR<sup>3</sup>, -N(R<sup>3</sup>)-C[=N-CN]-OR<sup>3</sup>, -N(R<sup>3</sup>)-C[=N-CN]-(R<sup>3</sup>)<sub>2</sub>, -OC(O)R<sup>3</sup>, -OC(S)R<sup>3</sup>, -OC(O)N(R<sup>3</sup>)<sub>2</sub>, -C(O)N(R<sup>3</sup>)-N(R<sup>3</sup>)<sub>2</sub>, -O-C(O)N(R<sup>3</sup>)-N(R<sup>3</sup>)<sub>2</sub>, O-C(O)N(OR<sup>3</sup>)(R<sup>3</sup>), N(R<sup>3</sup>)-N(R<sup>3</sup>)C(O)R<sup>3</sup>, N(R<sup>3</sup>)-OC(O)R<sup>3</sup>, N(R<sup>3</sup>)-OC(O)R<sup>3</sup>, N(R<sup>3</sup>)-OC(O)R<sup>3</sup>, -OC(S)N(R<sup>3</sup>)<sub>2</sub>, -OC(S)N(R<sup>3</sup>)(R<sup>3</sup>), or PO<sub>3</sub>-R<sup>3</sup>; ~~with the proviso that when R<sup>2</sup> is H, E' is -SO<sub>2</sub>, G is H or alkyl, and when B is present or when B is not present and R<sup>4</sup> is -C(O)-, D' may not be C<sub>1</sub>-C<sub>15</sub> alkyl substituted with one substituent selected from -N(R<sup>3</sup>)<sub>2</sub>, -SR<sup>3</sup> or -S(O)<sub>n</sub>-R<sup>3</sup>, or substituted with two -N(R<sup>3</sup>)<sub>2</sub> substituents;~~

E is selected from Ht; O-Ht; Ht-IIt; Ht fused with Ht; -O-R<sup>3</sup>; -N(R<sup>2</sup>)(R<sup>3</sup>); C<sub>1</sub>-C<sub>6</sub> alkyl optionally substituted with one or more groups selected from R<sup>4</sup> or Ht; C<sub>2</sub>-C<sub>6</sub> alkenyl optionally substituted with one or more groups selected from R<sup>4</sup> or Ht; C<sub>3</sub>-C<sub>6</sub> saturated carbocycle optionally substituted with one or more groups selected from R<sup>4</sup> or Ht; or C<sub>5</sub>-C<sub>6</sub> unsaturated carbocycle optionally substituted with one or more groups selected from R<sup>4</sup> or Ht;

each R<sup>4</sup> is independently selected from -OR<sup>2</sup>, -OR<sup>3</sup>, -SR<sup>2</sup>, -SOR<sup>2</sup>, -SO<sub>2</sub>R<sup>2</sup>, -CO<sub>2</sub>R<sup>2</sup>, -C(O)-NHR<sup>2</sup>, -C(O)-N(R<sup>2</sup>)<sub>2</sub>, -C(O)-NR<sup>2</sup>(OR<sup>2</sup>), -S(O)<sub>2</sub>-NHR<sup>2</sup>, halo, -NR<sup>2</sup>-C(O)-R<sup>2</sup>, -N(R<sup>2</sup>)<sub>2</sub> or -CN; and

each R<sup>7</sup> is ~~independently selected from~~ hydrogen, H,



wherein each M is independently selected from H, Li, Na, K, Mg, Ca, Ba,  $N(R^2)_4$ ,  $C_1-C_{12}$ -alkyl,  $C_2-C_{12}$ -alkenyl, or  $R^6$ ; wherein 1 to 4  $CH_2$  radicals of the alkyl or alkenyl group, other than the  $CH_2$  that is bound to Z, is optionally replaced by a heteroatom group selected from O, S(O),  $S(O)_2$ , or  $N(R^2)$ ; and wherein any hydrogen in said alkyl, alkenyl or  $R^6$  is optionally replaced with a substituent selected from oxo,  $OR^2$ ,  $R^2$ ,  $N(R^2)_2$ ,  $N(R^2)_3$ ,  $R^2OH$ , CN,  $CO_2R^2$ ,  $C(O)N(R^2)_2$ ,  $S(O)_2N(R^2)_2$ ,  $N(R^2)C(O)R^2$ ,  $C(O)R^2$ ,  $S(O)_nR^2$ ,  $OCF_3$ ,  $S(O)_nR^6$ ,  $N(R^2)S(O)_2(R^2)$ , halo,  $CF_3$ , or  $NO_2$ ;

$M'$  is H,  $C_1-C_{12}$ -alkyl,  $C_2-C_{12}$ -alkenyl, or  $R^6$ ; wherein 1 to 4  $CH_2$  radicals of the alkyl or alkenyl group is optionally replaced by a heteroatom group selected from O, S,  $S(O)$ ,  $S(O)_2$ , or  $N(R^2)$ ; and wherein any hydrogen in said alkyl, alkenyl or  $R^6$  is optionally replaced with a substituent selected from oxo,  $OR^2$ ,  $R^2$ ,  $N(R^2)_2$ ,  $N(R^2)_3$ ,  $R^2OH$ , CN,  $CO_2R^2$ ,  $C(O)N(R^2)_2$ ,  $S(O)_2N(R^2)_2$ ,  $N(R^2)C(O)R^2$ ,  $C(O)R^2$ ,  $S(O)_nR^2$ ,  $OCF_3$ ,  $S(O)_nR^6$ ,  $N(R^2)S(O)_2(R^2)$ , halo,  $CF_3$ , or  $NO_2$ ;

Z is O, S,  $N(R^2)_2$ , or, when M is not present, H;

Y is P or S;

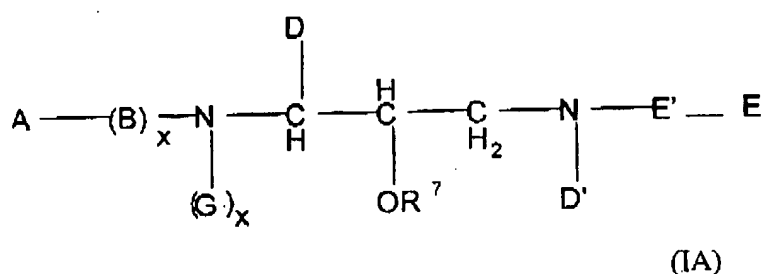
X is O or S;

$R^9$  is  $C(R^2)_2$ , O or  $N(R^2)$ ; and wherein when Y is S, Z is not S;

$R^6$  is a 5-6 membered saturated, partially saturated or unsaturated carbocyclic or heterocyclic ring system, or an 8-10 membered saturated, partially saturated or unsaturated bicyclic ring system; wherein any of said heterocyclic ring systems contains one or more heteroatoms selected from O, N, S,  $S(O)_n$  or  $N(R^2)$ ; and wherein any of said ring systems optionally contains 1 to 4 substituents independently selected from OH,  $C_1-C_4$ -alkyl,  $O-C_1-C_4$ -alkyl or  $O-C(O)-C_1-C_4$ -alkyl; and

each  $R^5$  is independently selected from hydrogen,  $C_1-C_8$ -alkyl,  $C_2-C_8$ -alkenyl,  $C_2-C_8$ -alkynyl or Ht, wherein any  $R^5$ , except for hydrogen, is optionally substituted with  $CF_3$ ,  $PO_3R^3$ , azido or halo.

2. (Currently amended) The compound according to claim 1, having the formula IA:



wherein:

D' is selected from C<sub>1-15</sub> alkyl, C<sub>2-15</sub> alkenyl or C<sub>2</sub>.C<sub>15</sub> alkynyl; each of which is substituted with one to two -CN groups and ~~each of which~~ is optionally substituted with C<sub>3</sub>.C<sub>8</sub> cycloalkyl.

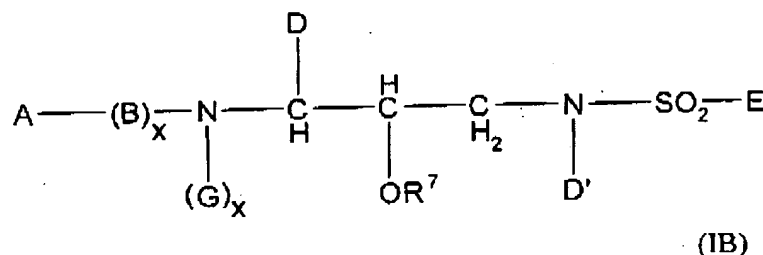
3. (Currently amended) The compound according to claim 2 wherein:

D' is selected from C<sub>1-15</sub> alkyl or C<sub>2-15</sub> alkenyl; each of which is substituted with one to two -CN groups and ~~each of which~~ is optionally substituted with C<sub>3</sub>.C<sub>8</sub> cycloalkyl.

4. (Currently amended) The compound according to claim 2 wherein:

D' is C<sub>2</sub>.C<sub>15</sub> alkynyl which is substituted with one to two -CN groups and ~~each of which~~ is optionally substituted with C<sub>3</sub>.C<sub>8</sub> cycloalkyl.

5. (Currently amended) The compound according to claim 1 having the formula IB:



wherein:

D' is selected from C<sub>1</sub>-C<sub>15</sub> alkyl, C<sub>2</sub>-C<sub>15</sub> alkenyl or C<sub>2</sub>-C<sub>15</sub> alkynyl, each of which contains one or more substituents selected from oxo, [[halo,]] -CF<sub>3</sub>, -OCF<sub>3</sub>, -NO<sub>2</sub>, azido, -SH, [[-SR<sup>3</sup>,]] -N(R<sup>3</sup>)-N(R<sup>3</sup>)<sub>2</sub>, -O-N(R<sup>3</sup>)<sub>2</sub>, -(R<sup>3</sup>)N-O-(R<sup>3</sup>), [[-N(R<sup>3</sup>)<sub>2</sub>,]] -CO<sub>2</sub>R<sup>3</sup>, -C(O)-N(R<sup>3</sup>)<sub>2</sub>, -S(O)<sub>n</sub>-N(R<sup>3</sup>)<sub>2</sub>, -N(R<sup>3</sup>)-C(O)-R<sup>3</sup>, -N(R<sup>3</sup>)-C(O)-N(R<sup>3</sup>)<sub>2</sub>, -N(R<sup>3</sup>)-C(O)-S(R<sup>3</sup>), -C(O)-R<sup>3</sup>, [[-S(O)<sub>n</sub>-R<sup>3</sup>,]] -N(R<sup>3</sup>)-S(O)<sub>n</sub>(R<sup>3</sup>), -N(R<sup>3</sup>)-S(O)<sub>n</sub>-N(R<sup>3</sup>)<sub>2</sub>, -S-NR<sup>3</sup>-C(O)R<sup>3</sup>, -C(S)N(R<sup>3</sup>)<sub>2</sub>, -C(S)R<sup>3</sup>, -NR<sup>3</sup>-C(O)OR<sup>3</sup>, -O-C(O)OR<sup>3</sup>, -O-C(O)N(R<sup>3</sup>)<sub>2</sub>, -NR<sup>3</sup>-C(S)R<sup>3</sup>, =N-OH, =N-OR<sup>3</sup>, =N-N(R<sup>3</sup>)<sub>2</sub>, =NR<sup>3</sup>, =NNR<sup>3</sup>-C(O)N(R<sup>3</sup>)<sub>2</sub>, =NNR<sup>3</sup>-C(O)OR<sup>3</sup>, =NNR<sup>3</sup>-S(O)<sub>n</sub>-N(R<sup>3</sup>)<sub>2</sub>, -NR<sup>3</sup>-C(S)OR<sup>3</sup>, -NR<sup>3</sup>-C(S)N(R<sup>3</sup>)<sub>2</sub>, -NR<sup>3</sup>-C[=N(R<sup>3</sup>)]-N(R<sup>3</sup>)<sub>2</sub>, -N(R<sup>3</sup>)-C[=N-NO<sub>2</sub>]-N(R<sup>3</sup>)<sub>2</sub>, -N(R<sup>3</sup>)-C[=N-NO<sub>2</sub>]-OR<sup>3</sup>, -N(R<sup>3</sup>)-C[=N-CN]-OR<sup>3</sup>, -N(R<sup>3</sup>)-C[=N-CN]-N(R<sup>3</sup>)<sub>2</sub>, -OC(O)R<sup>3</sup>, -OC(S)R<sup>3</sup>, -OC(O)N(R<sup>3</sup>)<sub>2</sub>, -C(O)N(R<sup>3</sup>)-N(R<sup>3</sup>)<sub>2</sub>, -O-C(O)N(R<sup>3</sup>)-N(R<sup>3</sup>)<sub>2</sub>, O-C(O)N(OR<sup>3</sup>)(R<sup>3</sup>), N(R<sup>3</sup>)-N(R<sup>3</sup>)C(O)R<sup>3</sup>, N(R<sup>3</sup>)-OC(O)R<sup>3</sup>, N(R<sup>3</sup>)-OC(O)R<sup>3</sup>, N(R<sup>3</sup>)-OC(O)R<sup>3</sup>, -OC(S)N(R<sup>3</sup>)<sub>2</sub>, -OC(S)N(R<sup>3</sup>)(R<sup>3</sup>), or PO<sub>3</sub>-R<sup>3</sup>; with the proviso that when R<sup>3</sup> is H, E' is -SO<sub>2</sub>, G is H or alkyl, and when B is present or when B is not present and R<sup>1</sup> is -C(O), D' may not be C<sub>1</sub>-C<sub>15</sub> alkyl substituted with one substituent selected from -N(R<sup>3</sup>)<sub>2</sub>, -SR<sup>3</sup> or -S(O)<sub>n</sub>-R<sup>3</sup>, or substituted with two -N(R<sup>3</sup>)<sub>2</sub> substituents.

6. (Currently amended) The compound according to claim 5 wherein:

D' is selected from C<sub>1</sub>-C<sub>15</sub> alkyl or C<sub>2</sub>-C<sub>15</sub> alkenyl, each of which contains one or more substituents selected from oxo, [[halo,]] -CF<sub>3</sub>, -OCF<sub>3</sub>, -NO<sub>2</sub>, azido, -N(R<sup>3</sup>)-N(R<sup>3</sup>)<sub>2</sub>, -O-N(R<sup>3</sup>)<sub>2</sub>, -(R<sup>3</sup>)N-O-(R<sup>3</sup>), [[-N(R<sup>3</sup>)<sub>2</sub>,]] -N(R<sup>3</sup>)-C(O)-N(R<sup>3</sup>)<sub>2</sub>, -N(R<sup>3</sup>)-C(O)-S(R<sup>3</sup>), -C(O)-R<sup>3</sup>, [[-S(O)<sub>n</sub>-R<sup>3</sup>,]]

$-N(R^3)-S(O)_n(R^3)$ ,  $-N(R^3)-S(O)_n-N(R^3)_2$ ,  $-S-NR^3-C(O)R^3$ ,  $-C(S)N(R^3)_2$ ,  $-C(S)R^3$ ,  $-NR^3$ ,  
 $C(O)OR^3$ ,  $-O-C(O)OR^3$ ,  $-O-C(O)N(R^3)_2$ ,  $-NR^3-C(S)R^3$ ,  $=N-OH$ ,  $=N-OR^3$ ,  $=N-N(R^3)_2$ ,  $=NR^3$ ,  
 $=NNR^3C(O)N(R^3)_2$ ,  $=NNR^3C(O)OR^3$ ,  $=NNR^3S(O)_n-N(R^3)_2$ ,  $-NR^3-C(S)OR^3$ ,  $-NR^3-C(S)N(R^3)_2$ ,  
 $-NR^3-C[=N(R^3)]-N(R^3)_2$ ,  $-N(R^3)-C[=N-NO_2]-N(R^3)_2$ ,  $-N(R^3)-C[=N-NO_2]-OR^3$ ,  $-N(R^3)-C[=N-$   
 $CN]-OR^3$ ,  $-N(R^3)-C[=N-CN]-(R^3)_2$ ,  $-OC(O)R^3$ ,  $-OC(S)R^3$ ,  $-OC(O)N(R^3)_2$ ,  $-C(O)N(R^3)-N(R^3)_2$ ,  
 $-O-C(O)N(R^3)-N(R^3)_2$ ,  $O-C(O)N(OR^3)(R^3)$ ,  $N(R^3)-N(R^3)C(O)R^3$ ,  $N(R^3)-OC(O)R^3$ ,  $N(R^3)-$   
 $OC(O)R^3$ ,  $N(R^3)-OC(O)R^3$ ,  $-OC(S)N(R^3)_2$ ,  $-OC(S)N(R^3)(R^3)$ , or  $PO_3-R^3$ ;  $C_2-C_{15}$  alkynyl which  
contains one or more substituents selected from oxo,  $[[halo,]]$   $-CF_3$ ,  $-OCF_3$ ,  $-NO_2$ , azido,  $-SH$ ,  
 $[[SR^3,]]$   $-N(R^3)-N(R^3)_2$ ,  $-O-N(R^3)_2$ ,  $-(R^3)N-O-(R^3)$ ,  $[[N(R^3)_2,]]$   $-CO_2R^3$ ,  $-C(O)-N(R^3)_2$ ,  $-$   
 $S(O)_n-N(R^3)_2$ ,  $-N(R^3)-C(O)-R^3$ ,  $-N(R^3)-C(O)-N(R^3)_2$ ,  $-N(R^3)-C(O)-S(R^3)$ ,  $-C(O)-R^3$ ,  $[[S(O)_n-$   
 $R^3,]]$   $-N(R^3)-S(O)_n(R^3)$ ,  $-N(R^3)-S(O)_n-N(R^3)_2$ ,  $-S-NR^3-C(O)R^3$ ,  $-C(S)N(R^3)_2$ ,  $-C(S)R^3$ ,  $-NR^3$ ,  
 $C(O)OR^3$ ,  $-O-C(O)OR^3$ ,  $-O-C(O)N(R^3)_2$ ,  $-NR^3-C(S)R^3$ ,  $=N-OH$ ,  $=N-OR^3$ ,  $=N-N(R^3)_2$ ,  $=NR^3$ ,  
 $=NNR^3C(O)N(R^3)_2$ ,  $=NNR^3C(O)OR^3$ ,  $=NNR^3S(O)_n-N(R^3)_2$ ,  $-NR^3-C(S)OR^3$ ,  $-NR^3-C(S)N(R^3)_2$ ,  
 $-NR^3-C[=N(R^3)]-N(R^3)_2$ ,  $-N(R^3)-C[=N-NO_2]-N(R^3)_2$ ,  $-N(R^3)-C[=N-NO_2]-OR^3$ ,  $-N(R^3)-C[=N-$   
 $CN]-OR^3$ ,  $-N(R^3)-C[=N-CN]-(R^3)_2$ ,  $-OC(O)R^3$ ,  $-OC(S)R^3$ ,  $-OC(O)N(R^3)_2$ ,  $-C(O)N(R^3)-N(R^3)_2$ ,  
 $-O-C(O)N(R^3)-N(R^3)_2$ ,  $O-C(O)N(OR^3)(R^3)$ ,  $N(R^3)-N(R^3)C(O)R^3$ ,  $N(R^3)-OC(O)R^3$ ,  $N(R^3)-$   
 $OC(O)R^3$ ,  $N(R^3)-OC(O)R^3$ ,  $-OC(S)N(R^3)_2$ ,  $-OC(S)N(R^3)(R^3)$ , or  $PO_3-R^3$ ; ~~with the proviso that~~  
~~when  $R^7$  is H,  $E'$  is  $-SO_2$ ,  $G$  is H or alkyl, and when B is present or when B is not present and~~  
 ~~$R^4$  is  $-C(O)-$ ,  $D'$  may not be  $C_1-C_{15}$  alkyl substituted with one substituent selected from  $-N(R^3)_2$~~   
~~or  $-S(O)_n-R^3$ , or substituted with two  $-N(R^3)_2$  substituents.~~

7. (Currently amended) The compound according to claim 5 wherein:

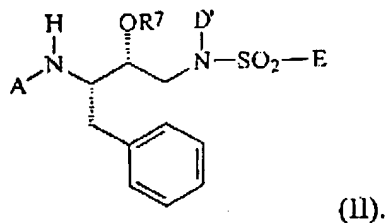
$D'$  is selected from  $C_1-C_{15}$  alkyl or  $C_2-C_{15}$  alkenyl, each of which contains one or more  
substituents selected from  $-SH$ ,  $[[SR^3,]]$   $-CO_2R^3$ ,  $-C(O)-N(R^3)_2$ ,  $-S(O)_n-N(R^3)_2$  or  $-N(R^3)-$   
 $C(O)-R^3$ ; ~~with the proviso that when  $R^7$  is H,  $E'$  is  $-SO_2$ ,  $G$  is H or alkyl, and when B is present~~  
~~or when B is not present and  $R^4$  is  $-C(O)-$ ,  $D'$  may not be  $C_1-C_{15}$  alkyl substituted with one~~  
~~substituent selected from  $-SR^3$ .~~





$\text{PO}_3$ -sperminc,  $\text{PO}_3$ -(spermidine)<sub>2</sub> or  $\text{PO}_3$ -(meglaminc)<sub>2</sub>.

10. (Currently amended) The compound according to claim [[8]] 1, having the formula II:

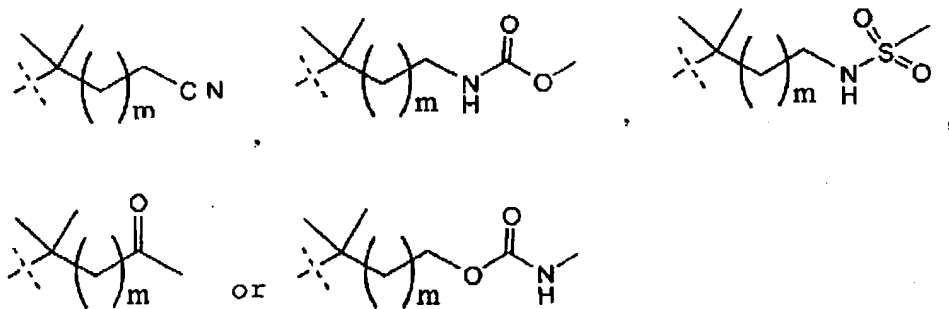


11. (Canceled)

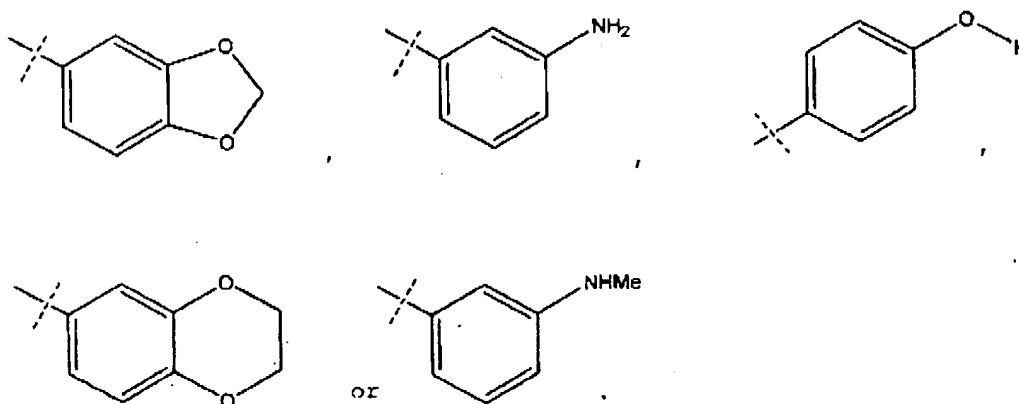
12. (Original) The compound according to claim 10, wherein:

D' is  $-\text{CH}_2-\text{R}''$ ; and

R'' is selected from

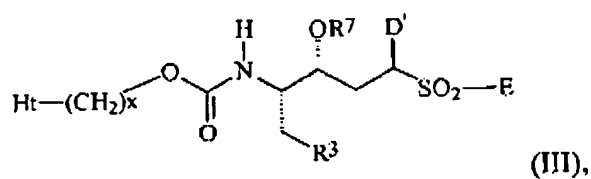


13. (Original) The compound according to claim 10, wherein E is selected from



14. (Withdrawn) The compound according to claim 10, wherein  $R^7$  is  $-\text{PO}_3^{2-}$

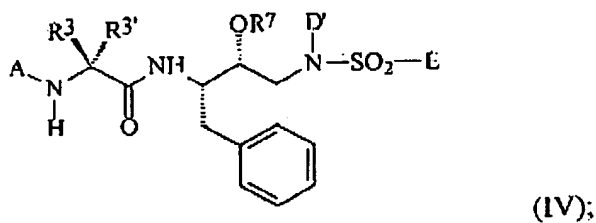
15. (Previously presented) The compound according to claim 1, having the formula III:



wherein  $x = 1$ .

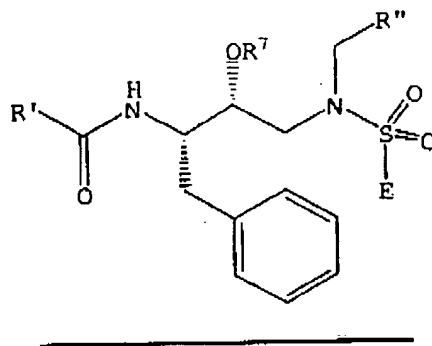
16. (Withdrawn) The compound according to claim 1, having the formula

IV:



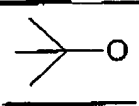
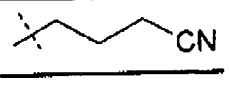
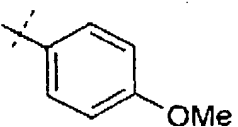
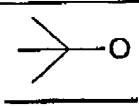
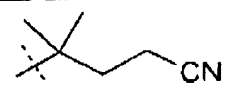
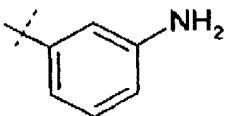
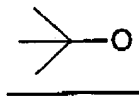

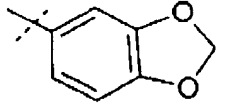
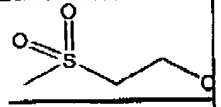
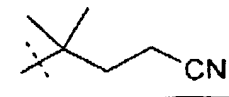
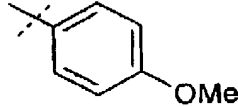
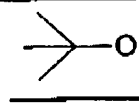
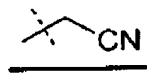
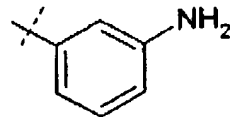
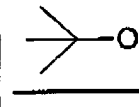
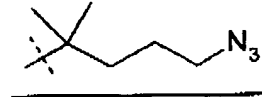
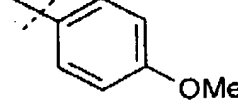
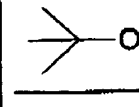
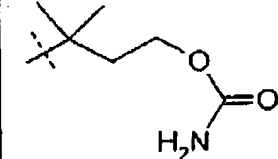
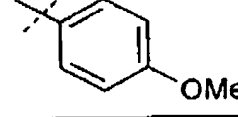
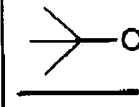
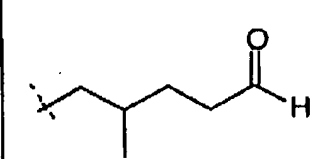
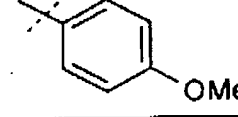
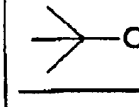
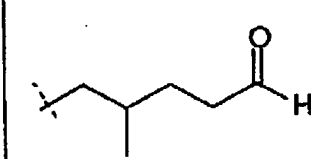
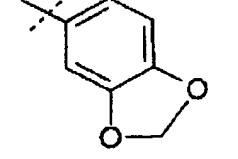
wherein  $R^{3'}$  is selected from H, Ht,  $C_1$ - $C_6$  alkyl,  $C_2$ - $C_6$  alkenyl,  $C_3$ - $C_6$  cycloalkyl or  $C_5$ - $C_6$  cycloalkenyl; wherein any member of said  $R^3$ , except H, is optionally substituted with one or more substituents selected from  $-OR^2$ ,  $-C(O)-NH-R^2$ ,  $-S(O)_n-N(R^2)(R^2)$ ,  $-N(R^2)_2$ ,  $-N(R^2)-C(O)-O(R^2)$ ,  $-N(R^2)-C(O)-N(R^2)$ ,  $-N(R^2)-C(O)-(R^2)$ ,  $-N(R^2-OR^2)_2$ ,  $-C(O)-Ht$ , Ht,  $-CN$ ,  $-SR^2$ ,  $-CO_2R^2$ , or  $NR^2-C(O)-R^2$ .

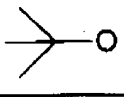
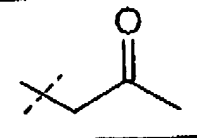
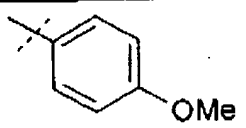
17. (Currently amended) The compound according to claim 1, wherein said compound is selected from any one of compound numbers: 1, 2, 3, 4, 5, 6, 22, 127, 203, 234, 277, 278, 279, 363, and 364;

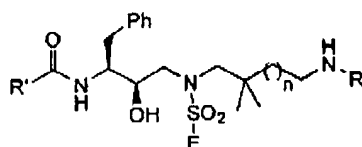


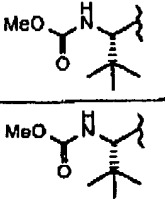
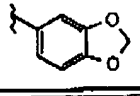
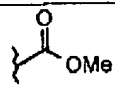
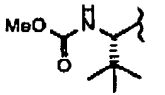
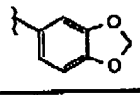
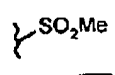
wherein  $R^7$  is H; and

Compound	$R'$	$R''$	E
<u>1</u>			
<u>2</u>			
<u>3</u>			

Compound	R'	R''	E
<u>4</u>			
<u>5</u>			
<u>6</u>			
<u>22</u>			
<u>127</u>			
<u>203</u>			
<u>234</u>			
<u>277</u>			
<u>278</u>			

Compound	R'	R''	E
<u>279</u>			



Compound	R'	E	n	R
<u>363</u>			<u>3</u>	
<u>364</u>			<u>3</u>	

18-22. (Canceled)

23. (Currently amended) A composition comprising a compound according to any one of claims ~~1-10 and 12-17~~ 1-7, 10, 12, 13, 15, and 17 or a pharmaceutically acceptable salt thereof in a therapeutically effective amount ~~an amount sufficient to detectably inhibit aspartyl protease activity in a patient,~~ and a pharmaceutically acceptable carrier.

24. (Original) The composition according to claim 23, further comprising an additional antiviral agent other than a compound of formula (I).

25. (Original) The composition according to claim 23, wherein said composition is formulated as a pharmaceutically acceptable, orally available tablet or capsule.

26. (Currently amended) A method of treating an HIV virus infection in a human comprising the step of administering to said human a composition according to ~~any one of claims 23 to 25~~ claim 23.

27. (Currently amended) The method according to claim 26, further comprising the step of

administering to said patient an additional antiviral agent other than a compound of formula I, wherein said additional antiviral agent is administered prior to, simultaneously with or following administration of said composition.

28. (New) A method of treating an HIV virus infection in a human comprising the step of administering to said human a composition according to claim 24.

29. (New) The method according to claim 28, further comprising the step of administering to said patient a second additional antiviral agent other than a compound of formula I, wherein said second additional antiviral agent is administered prior to, simultaneously with or following administration of said composition.

30. (New) A method of treating an HIV virus infection in a human comprising the step of administering to said human a composition according to claim 25.

31. (New) The method according to claim 30, further comprising the step of administering to said patient an additional antiviral agent other than a compound of formula I, wherein said additional antiviral agent is administered prior to, simultaneously with or following administration of said composition.